

STATE OF VERMONT  
PUBLIC SERVICE BOARD

Docket No. 6860

Petitions of Vermont Electric Power Company, Inc.     )  
(VELCO) and Green Mountain Power Corporation     )  
(GMP) for a certificate of public good, pursuant to     )  
30 V.S.A. Section 248, authorizing VELCO to     )  
construct the so-called Northwest Vermont Reliability     )  
Project, said project to include: (1) upgrades at 12     )  
existing VELCO and GMP substations located in     )  
Charlotte, Essex, Hartford, New Haven, North     )  
Ferrisburgh, Poultney, Shelburne, South Burlington,     )  
Vergennes, West Rutland, Williamstown, and     )  
Williston, Vermont; (2) the construction of a new 345     )  
kV transmission line from West Rutland to New     )  
Haven; (3) the reconstruction of a portion of a 34.5     )  
kV and 46 kV transmission line from New Haven to     )  
South Burlington; and (4) the reconductoring of a 115     )  
kV transmission line from Williamstown to Barre,     )  
Vermont –     )

Order entered: 12/29/2006

**ORDER RE: APPROVAL OF QUEEN CITY SUBSTATION PLANS**

**I. INTRODUCTION**

On January 28, 2005, the Vermont Public Service Board ("Board") issued an Order and Certificate of Public Good ("CPG") approving, with modifications and conditions, the Northwest Vermont Reliability Project proposed by Vermont Electric Power Company, Inc. (now Vermont Transco, LLC or "VT Transco") (collectively "VELCO") and Green Mountain Power Corporation ("GMP"). A condition of the January 28 Order and CPG stated:

Petitioners shall file, for the Board's approval, final construction plans for the 345 kV line, 115 kV line, and the substation upgrades, concurrent with plans for aesthetic and environmental mitigation, as required by the post-certification process described in the Order. Petitioners may commence construction only after receiving approval for such plans, and receipt of all necessary permits.

On August 10, 2006, VELCO filed final construction and landscape plans for the expansion of the existing VELCO Queen City substation in South Burlington, Vermont. On September 15, 2006, the Board conducted a site visit to the Queen City substation. On November 10, 2006, VELCO submitted revised final plans reflecting a minor modification to reduce the size of the control building. Technical hearings to address the final Queen City substation plans were held on November 21, 2006. VELCO filed a brief on November 30, 2006, with other parties filing reply briefs by December 11, 2006.

In today's Order, the Board approves the final construction and clearing plans for the Queen City substation. Therefore, as the January 28 Order provides, VELCO may commence construction of the Queen City substation if it has received all necessary permits, and subject to the additional conditions set forth herein.

## **II. FINDINGS OF FACT**

1. As part of the Northwest Vermont Reliability Project upgrades, the Queen City substation will be expanded to the north and east to accommodate equipment and facilities for the new 115 kV New Haven to Queen City transmission line. Exhs. VT Transco-Post CPG-12, -43, and -45.

2. The final design plans for the Queen City substation do not raise any substantive engineering concerns. Exh. DPS-Post CPG-38, att. 3.

3. VELCO and the parties have been considering proposed alternative routes for the 115 kV lines immediately south of the Queen City substation. Selection of an alternative route would not require any modifications to the design of the proposed expansion of the Queen City substation. Tr. 11/21/06 at 68 (Predom).

4. There are currently two transformers in service at the Queen City substation: the so-called B43 transformer, a 15 kV/13.8 kV transformer that serves Burlington Electric Department; and the so-called X69 transformer, a 115kV/34.5 kV transformer that serves Green Mountain Power Corporation. Exh. VT Transco-Post CPG-16, att. 1 at 1-2; exh. VT Transco-Post CPG-12.

5. In early May, 2006, the B43 transformer was damaged and temporarily replaced. Both the original and the temporary replacement B43 transformers are relatively loud, and the Queen

City Park neighbors have complained regarding the noise levels produced by the transformers. Exh. VT Transco-Post CPG-12 at 2-3; exh. VT Transco-Post CPG-16, att. 1 at 2; tr. 11/21/06 at 10 (Dunn).

6. VELCO has ordered a new replacement transformer for the B43 unit. The new unit will be fitted with a noise mitigation kit, and VELCO has represented that the manufacturer will guarantee sound emission levels that are 10 dBA lower than the NEMA TR-1 performance standard. Exh. VT Transco-Post CPG-16, att. 1 at 11.

7. VELCO's noise consultants, Resource Systems Group, Inc. ("RSG"), performed a Noise Impact Study to assess expected noise levels from the substation after completion of construction of the Queen City substation upgrades. The scenario studied included relocation of the X69 transformer further to the north and east of the substation yard, as provided in the expansion plans, and relocation of the newly ordered B43 transformer slightly to the north. The highest sound levels were those modeled in the build situation with cooling fans on, and are expected to be approximately 47 dBA at a location 100 feet north of the southern property boundary (VELCO) line, and approximately 43 dBA at the nearest home. Exh. VT Transco-Post CPG-16, att. 1 at 12.

8. The reduced size of the control building reflected in the revised construction plans will result in a modest, imperceptible increase in sound levels at several nearby residences. Exh. VT Transco-Post CPG-43; tr. 11/21/06 at 30, 68-70 (Kaliski).

9. VELCO also plans to replace the X69 transformer with a newer transformer next spring, and this will further reduce sound levels at the site. Tr. 11/21/06 at 10 (Dunn), 52 (Ettori), 53 (Predom), 65, 75 (Kaliski).

10. VELCO will conduct a post-construction noise impact study and install a sound wall if it becomes necessary to further reduce the sound levels at the nearby residences. Tr. 11/21/06 at 79 (Predom).

11. If a sound wall is constructed, the wall should be integrated visually with the rest of the structures to prevent it from becoming an unacceptable visual impact in the landscape. Tr. 11/21/06 at 87 (Raphael).

12. The southwest corner of the substation falls within the Queen City Park Wellhead Protection Area. Residents who are served by that water source expressed concerns relating to potential contamination of their well. However, the substation is not located within the well isolation zone. Pursuant to section A-3.3 of the 2005 Vermont Water Supply Rule, a well isolation zone is defined as a 200 foot radius circle around a public well; the substation is located 600 feet from the well at its closest point. The proposed expansion of the substation to the north and east would not increase the small area of the substation that is currently located within the wellhead protection area. Exh. Queen City Park-Post CPG-1A at 3; exh. Queen City Park-Post CPG-1D; tr. 11/21/06 at 100 (Milbury, Copp).

13. While substation construction is underway, VELCO anticipates an average work week of six days – Monday through Saturday – with construction activities occurring from 7:00 a.m. to 7:00 p.m. Tr. 11/21/06 at 32 (Predom).

14. Seven-day work weeks may occasionally be necessary to account for weather impacts and predetermined outage dates. Tr. 10/16/06 at 188 (Predom).

15. If work is conducted on Sundays, it would be limited to between 9:00 a.m. and 5:00 p.m. VELCO will not engage in heavy construction work on Sundays at the Queen City Substation construction site. An example of heavy construction would be the operation of heavy earth-moving equipment. Tr. 11/21/06 at 32-33, 45 (Predom).

16. The only nighttime construction activities will involve commissioning and energizing substation equipment. VELCO will not employ heavy earth-moving equipment during nighttime construction. Tr. 10/16/06 at 203 (Predom); tr. 11/21/06 at 45, 66-68 (Predom).

17. In advance of nighttime operations, VELCO will notify the municipality and the nearby landowners that such activities are scheduled to occur. Tr. 10/16/06 at 203 (Predom).

18. Due to the narrow time frame during which substation construction must occur, and in order for VELCO to meet its scheduled outage times, it is infeasible for VELCO to limit its construction activities to between the hours of 9:00 a.m. and 5:00 p.m. on weekdays only. Tr. 10/16/06 at 190 (Predom).

19. There will be no off-site vibration impacts resulting from substation construction activities. VELCO will employ a compacting unit for the purpose of compacting soils, but the

vibration impacts of the unit will be confined to the construction site. Tr. 10/17/06 at 68 (Predom).

20. VELCO will use water or chloride to suppress dust at the substation construction site, and will take steps to remove mud from truck tires at the designated construction entrance in order to minimize dust generated by construction traffic. Tr. 10/16/06 at 194-195 (Predom).

21. The construction haul route will be via the Industrial Parkway route to Home Avenue, then out to Route 7. Tr. 11/21/06 at 54 (Predom).

22. To the north of the substation is an industrial site. To the south are a stand of deciduous trees and a residential area (the Queen City Park neighborhood). The eastern border of the substation parcel abuts the railroad, and to the east are Green Mountain Power Corporation's substation, Champlain Water District, the Hannaford's shopping complex and other commercial developments. A wooded area with foot trails lies to the west. See Order of 1/28/05 at 130; exh. VT Transco-Post CPG-45.

23. Over the past two decades, and as a result of their location between commercial and industrial development zones, the residents of the Queen City Park neighborhood have seen substantial development in the area to the east and north of the neighborhood and substation, including the South Burlington Connector project, the building of the Hannafords plaza, the Champlain Water District expansion, Vermont Railway's culvert repair, and the new Lowe's project. Exh. Queen City Park-Post CPG-1A at 2.

24. The Board's January 28, 2005, Order concludes that VELCO's proposed upgrade of the Queen City substation will have an undue adverse impact on aesthetics unless extensive screen plantings are placed on at least three sides of the substation, in order to screen the substation from traveled ways. Order of 1/28/05 at 130.

25. VELCO's screening plans for the substation include extensive plantings on the east, north and south sides of the substation. Exh. VT Transco-Post CPG-12, att. 6; exh. VT Transco-Post CPG-45.

26. Following a site visit with residents on August 8, 2006, VELCO committed to adding 12 additional cedars to extend the cedar hedge along the southeast side of the substation, at the request of residents during the site visit. Exh. VT Transco-Post CPG-12, at 2.

27. VELCO also committed to adding an additional hedge of understory hemlocks along the south edge of the existing white pines; the additional hedge will be located between the Champlain Water District easement and the pines. This understory will supplement the existing white pine hedge should some of the white pines need to be removed over time if they become danger trees. Tr. 11/21/06 at 36 (Boyle).

28. These additional plantings to the south of the substation constitute appropriate mitigation to screen the Queen City Park neighbors, provided care is taken in planting. Tr. 11/21/06 at 89 (Raphael), 127 (Vissering); Vissering 10/3/06 pf. at 3, exh. Queen City Park-Post CPG-1B.

29. Although the Queen City Park neighbors on Maple Avenue expressed concerns about the visibility of the substation from their homes, they were not receptive to adding screen plantings at the southern boundary of the VELCO property line. In addition, it may not be possible to plant vegetative screening in this location due to presence of the Champlain Water District water intake pipe. Tr. 11/21/06 at 107-113 (Milbury, Copp).

30. The Queen City Park neighbors have also requested that a 15-foot-high cedar wall be constructed to screen the residences on Maple Avenue from the substation in the event that the existing white pine trees become danger trees and have to be removed. Tr. 11/21/06 at 99 (Copp), 99-100 (Milbury).

31. To minimize the visual impact of the control building and possible sound wall (if one is necessary), it would be preferable if both structures were painted a dark color to blend with the surrounding evergreens that are important for screening the substation. Tr. 11/21/06 at 87 (Raphael); tr. 11/21/06 at 128 (Vissering).

### **III. DISCUSSION AND CONCLUSION**

Based upon the above findings, VELCO's construction and landscape-mitigation plans for the Queen City substation filed with the Board on August 10, 2006, as revised on November 10, 2006, are approved. With the conditions set forth below, all concerns raised by City of South Burlington, the Department, and the Queen City Park neighbors in their briefs are addressed.<sup>1</sup>

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1. At this time, we do not require VELCO to construct the 15-foot-high cedar wall that the Queen City Park neighbors have also requested. The need for this wall will be addressed following the post-construction site visit.

Thus, we conclude that with these conditions, VELCO's expansion of the Queen City substation will comply with the substantive criteria of 30 V.S.A. § 248.

#### **IV. ORDER**

IT IS HEREBY ORDERED, ADJUDGED, AND DECREED by the Public Service Board of the State of Vermont that VELCO may begin site preparation for and construction of the Queen City substation in accordance with the approved plans and the findings contained herein, subject to the following conditions:

1. VELCO must obtain all necessary permits and approvals prior to site preparation and construction.
2. Prior to commencement of site preparation and construction, VELCO shall inform the Board only if any of the following are applicable:
  - a. any additional permits or approvals are required;
  - b. any permit or approval requires any changes to the Project design.
3. VELCO's construction activities shall be limited to the following schedule. VELCO may perform construction activities Monday through Saturday from 7:00 a.m. to 7:00 p.m. If work is conducted on Sundays, it shall be limited to between 9:00 a.m. and 5:00 p.m., and shall not involve heavy construction work. Commissioning and energizing substation equipment are the only nighttime construction activities permitted. Heavy earth-moving equipment shall not be employed during nighttime construction. At least 48 hours in advance of nighttime operations, VELCO shall notify towns and nearby landowners that such activities are scheduled to occur.
4. VELCO shall extend the cedar hedge along the southeast side of the substation, and shall plant an additional hedge of understory hemlocks along the south edge of the existing white pines (between the Champlain Water District easement and the pines), in addition to all other aesthetic mitigation proposed.
5. VELCO shall not remove any of the existing white pine trees south of the Queen City substation without Board approval, which may be granted after the hemlock hedge has reached a height sufficient to screen the substation from Maple Avenue. VELCO may trim or top the white

pinus as necessary only to the extent that this trimming or topping would avoid any of the pines from becoming a danger tree.

6. To minimize the visual impact of the control building, VELCO shall paint it a dark color to blend with the surrounding evergreens.

7. Within 30 days of the completion of construction, including all landscaping and aesthetic mitigation, VELCO shall notify the Board of the completion of construction. The Board will schedule a post-construction site visit and may require additional aesthetic mitigation, if determined to be necessary.

8. Within 30 days of the completion of construction of the Queen City substation, including all landscaping and aesthetic mitigation, VELCO shall file a plan, to be approved by the Board, for conducting a post-construction noise study at the Queen City substation.

Dated at Montpelier, Vermont, this 29<sup>th</sup> day of December, 2006.

_____	)	
	)	PUBLIC SERVICE
	)	
<u>s/David C. Coen</u>	)	BOARD
	)	
	)	OF VERMONT
<u>s/John D. Burke</u>	)	

OFFICE OF THE CLERK

FILED: December 29, 2006

ATTEST: s/Susan M. Hudson  
Clerk of the Board

*NOTICE TO READERS: This decision is subject to revision of technical errors. Readers are requested to notify the Clerk of the Board (by e-mail, telephone, or in writing) of any apparent errors, in order that any necessary corrections may be made. (E-mail address: psb.clerk@state.vt.us)*